

**OUT OF (SOUTH) AFRICA:
PRETORIA'S NUCLEAR
WEAPONS EXPERIENCE**

Roy E. Horton, III

INSS Occasional Paper 27

Counterproliferation Series

August 1999

USAF Institute for National Security Studies
USAF Academy, Colorado

The views expressed in this paper are those of the authors and do not necessarily reflect the official policy or position of the Department of the Air Force, the Department of Defense, or the U.S. Government. This paper is approved for public release by SAF/PAS; distribution is unlimited.

Comments pertaining to this paper are invited; please forward to:

Director, USAF Institute for National Security Studies
HQ USAFA/DFES
2354 Fairchild Drive, Suite 5L27
USAF Academy, CO 80840
phone: 719-333-2717
fax: 719-333-2716
email: james.smith@usafa.af.mil

Visit the Institute for National Security Studies home page at
<http://www.usafa.af.mil/inss>

TABLE OF CONTENTS

Foreword	vii
Executive Summary	ix
Introduction	1
The Program Begins	3
The Key Players Behind the Program	18
A Nuclear Program is Dismantled	28
Lessons Learned and Future U.S. Policy Implications	33
Bibliography	38
Endnotes	42

FOREWORD

We are pleased to publish this twenty-seventh volume in the *Occasional Paper* series of the US Air Force Institute for National Security Studies (INSS). In it, Lieutenant Colonel Horton presents the case study of the South African nuclear program, and specifically their decision to “roll back” nuclear production and abandon “the bomb.” In this era of greatly heightened proliferation concerns, this is a particularly illustrative case. It highlights the distinctly national factors, founded around the regional security perceptions and more global recognition goals of the core national leadership, that led to the South African reversal of its nuclear proliferation. United States personnel dealing with counterproliferation policy and programs, and with their implementation, can gain valuable insight from examining this first successful case of nuclear rollback.

About the Institute

INSS is primarily sponsored by the National Security Policy Division, Nuclear and Counterproliferation Directorate, Headquarters US Air Force (HQ USAF/XONP) and the Dean of the Faculty, USAF Academy. Our other sponsors currently include the Air Staff’s Intelligence, Surveillance, and Reconnaissance Directorate (XOI); the Secretary of Defense’s Office of Net Assessment (OSD/NA); the Defense Threat Reduction Agency (incorporating the sponsorship of the Defense Special Weapons Agency and the On-Site Inspection Agency); the Army Environmental Policy Institute; the Plans Directorate of the United States Space Command; and the Air Force long-range plans directorate (XPXP). The mission of the Institute is “to promote national security research for the Department of Defense within the military academic community, and to support the Air Force national security education program.” Its research focuses on the areas of greatest interest

to our organizational sponsors: arms control, proliferation, regional studies, Air Force policy, information warfare, environmental security, and space policy.

INSS coordinates and focuses outside thinking in various disciplines and across the military services to develop new ideas for defense policy making. To that end, the Institute develops topics, selects researchers from within the military academic community, and administers sponsored research. It also hosts conferences and workshops and facilitates the dissemination of information to a wide range of private and government organizations. INSS is in its seventh year of providing valuable, cost-effective research to meet the needs of our sponsors. We appreciate your continued interest in INSS and our research products.

JAMES M. SMITH
Director

EXECUTIVE SUMMARY

The United States identifies the proliferation of weapons of mass destruction, particularly nuclear weapons, as the greatest potential threat to global security in the post-Cold War era. Despite a considerable emphasis in this area, only South Africa has voluntarily rolled back its nuclear weapons capability. Unfortunately, South Africa's actions apparently came in spite of US nonproliferation measures. "Nuclear rollback" occurs when a nation eliminates its nuclear weapons, relinquishes at least some of the technical means to acquire nuclear weapons, and/or accepts a control regime to prevent it from going nuclear.

The primary focus of the paper is the impact of key South African leaders on the successful development and subsequent rollback of South Africa's nuclear weapons capability. It highlights the important milestones in the development of South Africa's nuclear weapon capability. It also relates how different groups within South Africa (scientists, politicians, military and technocrats) interacted to successfully produce South Africa's nuclear deterrent. It emphasizes the pivotal influence of the senior political leadership to pursue nuclear rollback given the disadvantages of its nuclear means to achieve vital national interests.

The conclusions drawn from this effort are the South African nuclear program was an extreme response to its own "identity crisis." Nuclear weapons became a means to achieving a long-term end of a closer affiliation with the West. A South Africa yearning to be identified as a Western nation—and receive guarantees of its security—rationalized the need for a nuclear deterrent. The deterrent was intended to draw in Western support to counter a feared "total onslaught" by Communist forces in the region. Two decades later, that same South Africa

relinquished its nuclear deterrent and reformed its domestic policies to secure improved economic and political integration with the West.

Several recommendations are offered for critical review of the above issues to include the need for greater international dialogue and constructive engagement with threshold nations such as India and Pakistan. Nonproliferation regimes can be used to promote mutual verification, transparency, and the resolution of mutual security concerns. More than anything, policymakers must be prepared to assist threshold nuclear states in resolving their core regional security concerns if they wish to encourage states to pursue nuclear rollback.